

A GUIDE TO THE INSTALLATION OF GLASS INTO DRAINED TIMBER FRAMES

Version No. 3

Issue Date: 17/12/12

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INTRODUCTION

This guide gives important information on the selection, site storage, frame preparation glazing and painting of timber frames in order to achieve a weather tight installation.

GENERAL PRINCIPLES

Frame selection.

See section 4.2 of the GGF clause 6.2

Frames suitable for drained glazing systems.

For a full description of recommended bead size and rebate dimensions as recommended by the GGF.

Selection of glass

Ensure that the unit maker will give the required warranty period for the glazing method to be used and this is clearly stated.

Ensure units conform to BS EN 1279.

Selection of glazing system.

The following factors should be considered in selecting the glazing method.

Exposure conditions.

- Exposure rating is influenced by the design of the building, its location, the local topography and the influence of neighboring buildings (up to 10m high), the abbreviated method given in BS 6262 Clause 4.11.2, can be used to determine the design wind pressure.

For buildings above 10m high, the wind pressure should be determined by the method given in CP3: chapter: V part 2.

EXAMINATION OF THE FRAME, CHECKING AND SITE STORAGE OF MATERIALS

- Check all materials, frames, glass and glazing materials on delivery and refer damages or other problems promptly to the supplier.
- Check the glass and rebate sizes, and the edge clearance to ensure that the glazing can be carried out in accordance with the specification.
- To protect materials in storage, carefully read the manufactures recommendations on the frame (if applicable) and containers and store under the specified conditions.

For more detail see BS8000 part 7: 1990 section 2.

Storage of the frame

Timber windows must be stored inside and in dry conditions. The way your new windows and doors are stored after delivery to your workshop or to site makes a marked difference to the performance of the joinery itself, and also to the performance of double glazed units and the sealant materials used to fix them. Windows and doors, which have become wet when stored, will dry out after installation but this can cause some joints to open up.

Here are some important storage guidelines: -

Protective wrapping should not be removed until installation.

Do not remove any code marking until installation.

Stack on level bearers allowing enough clearance for free air circulation on all sides of the stack.

Measuring the frame and calculating the glass size.

With a drained frame it is important that the correct edge clearance is achieved, this in turn will ensure that optimum drainage can occur

Each opening should be measured as follows:

Top to mid rail or top to bottom depending on the window style e.g. 1000mm.

Side to mullion or side depending on window style e.g. 1000mm.

Subtract 10mm from each measurement so that the unit size required is 990mm x 99mm

If there is no alternative but to store windows and doors outside, stack as detailed above and protect on all sides with a tarpaulin. The use of polythene or similar is not recommended as it acts as a greenhouse, encouraging the formation of condensation beneath the cover. The cover must be waterproof but able to breathe.

Frame Preparation.

- Remove all beads from the window making a mark on the inside of the rebate and the corresponding bead which will help you to replace them in the same position when you have glazed the window. Pencil mark each bead on the outside no more than 50mm from each end and at 150mm centers. Reposition the bottom hockey stick beads on the platform and make a corresponding mark on the rebate platform. These pencil marks show you where to position the bead packers and the pins when pinning the bead.
- Remove all dust, grease and loose materials from the rebate. Any moisture on the timber should be wiped off using clean paper towel or other absorbent material to give a dry surface.
- Fill any gaps in the rebate which water might penetrate, with silicone sealant.

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- Check the condition of any primer or stain on the frame in particular the rebate and glazing surfaces of the beads. If this has been partially missed or is considerably weathered, the frame including the rebate and beads should be reprimed or stained before glazing.
- Check that the unit fits into the frame and can be centralised by standing the unit on the red setting blocks so that there is 5mm-edge clearance at the bottom of the unit. The spacer bar should ideally be level with the sightline or slightly below it, not above.

Unit examination and preparation

- Units must be stored inside away from sunlight to avoid thermal stress. If they must be stored outside they must be covered with an opaque cover and not transparent sheeting, to avoid thermal stress. They must be stored on edge in dry conditions with adequate support to prevent distortion or bowing. Suitable soft surface supporting blocks should be used to prevent edge damage. (more in Section 9.1 of the Glass & Glazing Manual Section 4.2 if appropriate).
- Inspect the insulating glass unit for obvious defects.
- Remove any tapes around the edge of the unit, which extend more than 1mm onto the face of the unit. Clean the perimeter of the unit ensuring that any residual adhesive from the edging tapes is removed.

INSTALLATION

Correct installation technique is vital to ensure trouble-free operation of doors and windows throughout their life.

All frame products must be installed plumb, true and square.

Damp courses must be correctly positioned, with vertical DPC's fixed to or closely abutted to the frames.

Frame cramps or perimeter battens should be used to secure the frame to the surrounding structure, depending on method of construction.

The surrounding brickwork should abut the frame lightly so as not to cause distortion to the frame.

The lintel should be clear of the frame (Window and door frames are not load bearing)

The external joint between windows or doorframes and the surrounding structure should be sealed with a suitable perimeter sealant. The suitability of the perimeter sealant will depend on whether the frame is to be painted or stained.

PREPARATION OF THE UNIT AND APPLICATION OF FLEXISTRIP

- With the unit laid horizontally on a soft non-scratch surface apply Flexistrip around the perimeter of the face of the unit as follows; Starting at one corner apply Flexistrip to the face of the unit aligning the backing paper with the edge of the unit. Cut the Flexistrip and the backing paper flush with the ends of the unit using a sharp blade. Fold back approximately 5cm of the backing paper from each end to expose the strip sealant.
- Start the application of the second length of Flexistrip by forming a seamless butt joint against one of the exposed sections of Flexistrip already applied. Do not overlap, leave gaps between adjacent sections of Flexistrip or apply pressure to the joint. Again, continue by aligning the backing paper with the edge of the unit and cutting the Flexistrip and the backing paper flush with the end of the unit.
- Continue to apply the Flexistrip around the perimeter of the unit as described above until reaching the final joint between the fourth and first lengths of Flexistrip. The formation of this joint requires a different technique to that described above.
- Fold the fourth length of Flexistrip back on itself (through 180°) just as it reaches the exposed section of the first length of Flexistrip. Using a sharp blade carefully cut through the backing paper and the Flexistrip thus forming a neat final joint.
- It is important that a very sharp blade is used to make each cut through the backing paper and Flexistrip as good butt joints can only be made if the cut ends of Flexistrip are square and free from deformation.

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PAINTING AND MAINTANANCE

Painting the frame.

To achieve a weather tight frame the following joints must be filled so that a continuous paint film is achieved across the joint.

The ends of beads

Bead to rebate platform for top and side beads.

Maintenance of the frame

The coating on the frame protects the frame and also stabilizes the components such as beads and joints. Failure to maintain the coating will lead to excessive movement of the frame, putting extra stress on the glazing system resulting in a reduction in its service life.

Distortion of the frame can also be caused by a failure to insert glazing blocks correctly. In extreme cases re glazing will be necessary.

Site applied frame finishes require regular maintenance. The coating on the horizontal surfaces will deteriorate more rapidly than on vertical surfaces. Similarly the coating on the south elevation (which is subject to greater levels of sunlight) will deteriorate more rapidly than other elevations.

The period between maintenance will vary from as little as 1 to 2 years for south facing horizontal surfaces coated with dark coloured, low build microporous stain, and up to 6 years for long life coatings in less severe exposures.

Specification of the actual coating on the frame is important and details of suitable maintenance for coatings should be obtained from the manufacturer.

Maintenance of the glazing system

Maintenance schedules consist of regular inspections of the glazing system and when necessary, the replacement of defective glazing material.

To give weather tight seal, a glazing material must adhere well to all surfaces, which it is in contact. The movement that occurs between and the glass, together with the effect of the weather can over a period of time, break down the adhesion of the glazing material. This loss of adhesion results in the formation of a fine split between the glazing material and either the bead or the glass. When such splits first form it is difficult to see them with the naked eye.

It is possible to re-seal fine splits between the glazing material and either the glass or the frame. Where splits have widened and are too large to seal with paint – or where cracks have formed in the glazing material, the defective length should be replaced with the same type of glazing material.

Maintenance of the drainage

It is very important that the drainage channel and ventilation holes (if applicable) are kept clean and clear of any blockage. This can happen as a result of brick dust or dirt being blown into the ventilation holes.

The information given in this technical information sheet is based on laboratory tests and experience which we believe to be correct. Properties quoted are typical and do not therefore constitute a specification. In view of the wide range and variability of substrates, we would advise that our product should be tested by the user to establish suitability for its intended application. E &OE.